

## **REMARKS**

### **I. Introduction**

Claims 18 to 25 are pending in the present application. In view of the preceding amendments and following remarks, it is respectfully submitted claims 18 to 25 are allowable, and reconsideration is respectfully requested.

### **II. Rejection of Claims 18 to 25 under 35 U.S.C. §112, first paragraph**

Claims 18 to 25 were rejected under 35 U.S.C. §112, first paragraph as allegedly being based on a disclosure which is not enabling. The Office action states that it “appears essential” that the step of passing the aqueous solution through the quantity of ion exchange resin for the removal of thorium (claim 18, lines 2-3) be carried out both continuously and at a constant flow rate, since the specification clearly indicates that these process condition are required to achieve the objects of the invention (see page 2, lines 15-16) and 19 to 20; page 3, lines 20 to 21); and page 4, line 1. The Office Action then alleges that claims 18 to 25 fail to recite these essential process conditions, and are therefore not enabled by the disclosure.

Applicant has amended independent claim 18 to recite that the process is conducted continuously as provided in the specification on page2, lines 9 and 10. Claim 18 recites a method for the pretreatment of an aqueous solution containing radioactive thorium prior to passing the aqueous solution through a quantity of ion exchange resin for removal of the thorium, comprising the steps of diluting the aqueous solution with water; and removing organic material from the aqueous solution by filtering.

The specification of the current invention provides several modes of operation, one of which is recited in claim 18. Applicant submits that page 2, lines 14 to 15 provides that the invention includes an aqueous solution which passes through the ion exchange resin at a “substantially constant flow rate”. By qualifying the flow rate with the phrase “substantially”, the Applicant has allowed for a fluctuating flow rate. Applicant furthermore submits that the plain meaning of the word “substantial” , as provided in reputable dictionaries, also provides for support for the applicants arguments. As previously submitted, the American Heritage Dictionary of the English Language, New

College Edition, by Houghton Mifflin Company, defines the word "substantial" as "considerable in degree or amount". As a result, it is submitted that the specification does not preclude other flow rates, only that the flow rates are considerable in degree or amount. Thus, the flow rates may be varied as the plain definition allows.

Applicant furthermore submits that a selected flow rate is found in the specification at page 3 which states that the ion exchange resin type, amount of ion exchange resin and flow rate of the aqueous solution through the ion exchange resin are selected so that the thorium residence time on the ion exchange column is longer than its radiolytic decay time. Thus, the key parameter is the amount of thorium that emerges from a column containing the ion exchange resin. Applicant furthermore submits that the specification also recites that flow rate may be altered according to the amount of thorium desired to be output. Applicant also respectfully submits an attached declaration which confirms that the disclosure is enabling for the claims and that the rejection under 35 U.S.C. 112, first paragraph should be withdrawn.

Claims 19 to 25 depend from claim 18 and therefore include all of the features of amended claim 18. Applicants respectfully submit that claims 19 to 25 are patentable for at least the reasons provided above in relation to claim 18.

Applicants respectfully submit a declaration under 37 CFR 1.132 to support the statements provided above. Applicants respectfully submit that the declaration is completed by an individual, other than the inventor, who is familiar with the subject matter pertaining to the application. Applicants respectfully request withdrawal of the 35 U.S.C. 112, first paragraph rejection to the claims.

### **III. Rejection of Claims 18 to 25 Under 35 U.S.C. §112, Second Paragraph**

Claims 18 to 25 were rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Office Action states that the claims fail to recite that the ion exchange

resin treatment is both continuous and operated at a substantially constant flow rate.

For the reasons provided above, Applicant respectfully submits that claims 18 to 25 are not indefinite in that the plain mean of the terms provided. As discussed above the specification of the current invention provides several modes of operation, one of which is recited in claim 18. Applicant submits that page 2, lines 14 to 15 provides that the invention includes an aqueous solution which passes through the ion exchange resin at a "substantially constant flow rate". By qualifying the flow rate with the phrase "substantially", the Applicant has allowed for a fluctuating flow rate. Applicant furthermore submits that the plain meaning of the word "substantial", as provided in The American Heritage Dictionary of the English Language, New College Edition, by Houghton Mifflin Company, is "considerable in degree or amount". As a result, it is submitted that the specification does not preclude other flow rates, only that the flow rates are considerable in degree or amount. Thus, the flow rates may be varied as the plain definition allows.

As the claims are provided with terms that are clearly defined by the specification and within the meaning of such terms, Applicant respectfully requests withdrawal of the rejections to claims 18 to 25

#### **IV. Conclusion**

It is therefore respectfully submitted that the pending claims are allowable. All issues raised by the Examiner have been addressed, and an early and favorable action on the merits is solicited.

Respectfully submitted,  
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Dated: 9/2/05

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